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October 6, 2009  
264204.19.B2.01/PC.386P117

Mr. Henry Chui  
California Environmental Protection Agency,  
Department of Toxic Substances Control  
700 Heinz Avenue, Suite 200  
Berkeley, CA 94710-2721

Subject: Cleanup Plan for Pits in Polychlorinated Biphenyl Site Building 386 AL#01 in  
Investigation Area C2, Lennar Mare Island, Vallejo, California

Dear Mr. Chui:

CH2M HILL prepared this letter to comply with the requirements in the Consent Agreement for Lennar Mare Island, LLC's (LMI), Eastern Early Transfer Parcel (LMI et al. 2001), signed April 16, 2001, by LMI, the City of Vallejo, and the State of California Environmental Protection Agency, Department of Toxic Substances Control (DTSC), and according to the *Final Polychlorinated Biphenyl Work Plan* (CH2M HILL 2003) and the *Final Interim Removal Action Work Plan for Indoor Polychlorinated Biphenyl Sites in the Eastern Early Transfer Parcel* (CH2M HILL 2006). Figure 1 shows the location of Building 386.

### Site Identification

Using visual site surveys and reviews of historical records, building closure reports, and databases of electrical equipment, the United States Department of the Navy (Navy) identified sites where PCB-containing equipment was located, PCB spills were documented, or contamination was suspected because of building history or visible stains (Tetra Tech Environmental Management, Inc. [TtEMI] 1999). Navy personnel from Supervisor of Shipbuilding, Conversion and Repair, Portsmouth, Virginia, Environmental Detachment (SSPORTS), conducted interim PCB assessments and performed cleanup actions (e.g., washing, scabbling) in accordance with technical work documents (TWDs), where necessary. Following the SSSPORTS interim PCB assessments and necessary cleanup actions, TtEMI personnel collected samples either to confirm the SSSPORTS findings that no cleanup was necessary or to determine the effectiveness of the cleanup actions.

Building 386 is located in Investigation Area C2, southeast of Bagley (formerly 14<sup>th</sup>) Street between Azuar Drive and Railroad Avenue (Figure 1). Building 386 was constructed in the early to mid-1920s as part of a superstructure (with Buildings 388, 390, and 382). Building 386 was used as a metalworking facility. Building 386 once contained oil-filled

circuit breakers or oil-filled fuse cutouts that were removed by the Navy before CH2M HILL cleanup actions. Although adjacent Buildings 382, 388, and 390 have been leased to XKT, Building 386 is not currently leased and, according to the *Preliminary Land Use Plan* (SWA Group 2000), is in an area designated for future industrial use.

One PCB site is associated with Building 386 and listed in the Consent Agreement (LMI et al. 2001): AL#01, the ground floor of Building 386. A no further action (NFA) determination for PCB Site Building 386 AL#01 was requested in the *Site Characterization and Cleanup Action Summary Report for Polychlorinated Biphenyl Site Building 386 AL#01, Investigation Area C2, Lennar Mare Island, Vallejo, California* (CH2M HILL 2008a), which was submitted to DTSC on January 15, 2008. DTSC responded in a letter dated April 15, 2008 (DTSC 2008), recommending an indoor air evaluation for PCBs at PCB Site Building 386#01. On June 9, 2008, Mr. Henry Chui of DTSC and Ms. Gillian Semmer of CH2M HILL conducted a site visit at Building 386. During the site visit, Mr. Chui stated that indoor air sampling was not necessary at Building 386 but requested that one characterization sample be collected from each of the pits along the eastern side of Building 386. Samples were not requested from Pits 6, 10A, and 11 through 14. In an email to Mr. Chui dated July 16, 2008, Mr. Michael Sanchez of CH2M HILL indicated that characterizations samples would be collected from Pits 1 through 5 and 8 through 10 in Building 386 (CH2M HILL 2008b) (Figure 2). A characterization sample was also collected from Pit 7, which was partially covered with plywood during initial site visits and was discovered in a subsequent site visit. This letter addresses these nine concrete pits located in PCB Site Building 386 AL#01.

Documentation of the Navy PCB site assessment and confirmation sampling is contained in the *Final Basewide Polychlorinated Biphenyl Confirmation Sampling Summary Report* (TtEMI 1999), in the section for Parcel 05-A. Site description, previous sample location figures, and previous cleanup action performed by CH2M HILL at PCB Site Building 386 AL#01 are included in the *Site Characterization and Cleanup Action Summary Report for Polychlorinated Biphenyl Site Building 386 AL#01, Investigation Area C2, Lennar Mare Island, Vallejo, California* (CH2M HILL 2008a).

The following sections summarize the characterization sampling, previous cleanup actions, and proposed cleanup plan for the concrete pits in PCB Site Building 386 AL#01.

## **Summary of Previous Sampling**

Table 1 summarizes the results from characterization sampling in the pits in PCB Site Building 386 AL#01. The table includes the sample numbers, matrices, dates, total PCB concentrations (or laboratory detection levels if PCBs were not detected) and the pit number. Characterization sampling locations in the pits in PCB Site Building 386 AL#01 are presented on Figures 2 and 3.

CH2M HILL personnel collected six concrete chip samples (B386AL01CS0801 through B386AL01CS0803 and B386AL01CS0806 through B386AL01CS0808) from the bottoms of Pits 1 through 3 and 8 through 10 in July and August 2008 (Figure 2). Because Pits 4 and 5 were filled with water and oil, respectively, one grab water sample (B680AL01CS0804) was collected from Pit 4 and one concrete chip sample (B680AL01CS0805) was collected from the

side edge of Pit 5 (Figure 2). PCBs were detected in six of the seven concrete chip samples, at total concentrations ranging from 0.021J (B386AL01CS0808) ("J" indicates an estimated concentration) to 7.5 mg/kg (B386AL01CS0803) (Table 1). PCBs were not detected at a total concentration above the laboratory detection level in water sample B386AL01CS0804 (Table 1). PCB concentrations in concrete samples collected from Pits 1, 2, 5, 8, 9, and 10 were below the 0.74 mg/kg industrial regional screening level (RSL) for high-risk PCBs (United States Environmental Protection Agency [USEPA] 2009).

Total PCB concentrations in sample B386AL01CS0803 collected from Pit 3 exceeded the 0.74 mg/kg industrial RSL for high-risk PCBs. Therefore, an additional evaluation of this pit was performed. In September 2008, CH2M HILL personnel collected 10 additional concrete chip samples (B386AL01CS0809 through B386AL01CS0818) from the bottom and sidewalls in Pit 3 (Figure 3). PCBs were detected in these samples at total concentrations ranging from 0.066 (B386AL01CS0813) to 15 mg/kg (B386AL01CS0814) (Table 1). CH2M HILL personnel collected two additional concrete chip samples (B386AL01CS0819 and B386AL01CS0820) from the bottom of the western portion of Pit 3 (Figure 3). PCBs were detected in both of these samples, at total PCB concentrations of 1.2 and 0.77 mg/kg, respectively (Table 1).

As part of remediation activities at Installation Restoration Program Site 21 (IR21) (CH2M HILL 2009), CH2M HILL simultaneously performed work at 11 pits in Building 386. NRC Environmental Services personnel, with CH2M HILL oversight, cleaned out the nine pits described above (Pits 1 through 5 and 7 through 10) and two pits (Pits 10A and 14) from which DTSC did not request samples during the 2008 site visit (DTSC 2009). The cleaning included removing debris and pressure-washing the 11 pits. Water and oil were removed from Pits 1, 2, 4, 5, 7, 10, 10A, and 14 prior to pressure-washing. Detailed descriptions of the cleaning, sampling, and disposal of the water and sediment are presented in the *Final Feasibility Study/Remedial Action Work Plan for IR21 and the Buildings 386, 388, and 390 Area, Investigation Area C2, Lennar Mare Island, Vallejo, California* (CH2M HILL 2009). Pit 3 was pressure-washed January 13 through January 15, 2009. Pit floors, sidewalls, an 18.5-foot-deep floor vault, and visibly stained areas were pressure-washed twice.

In January 2009, after the water and oil were pumped out of the pits and the pits were pressure-washed, CH2M HILL personnel collected three concrete chip samples (B386PIT4CS0801, B386PIT5CS0802, and B386PIT7CS0803) from the bottoms of Pits 4, 5, and 7, respectively (Figure 2). PCBs were not detected at concentrations above laboratory detection levels in these samples (Table 1).

On January 15, 2009, CH2M HILL personnel collected one concrete chip sample (B386PIT3CS0821) from the bottom of the 18.5-foot vault in Pit 3 (Figure 3). PCBs were detected at a total concentration of 0.059 mg/kg in sample B386PIT3CS0821 (Table 1).

On February 10, 2009, CH2M HILL personnel collected 15 concrete chip samples (B386PIT3CS0822 through B386PIT3CS0836) from sidewalls and floors in Pit 3 after pressure-washing (Figure 3). PCBs were detected in all 15 samples, at total concentrations ranging from 1.4 (B386PIT3CS0836) to 30 mg/kg (B386PIT3CS0827) (Table 1). The maximum total PCB concentration of 30 mg/kg (B386PIT3CS0827) was detected in a sample collected from the north sidewall of Pit 3 (Figure 3). Only one floor sample

(B386PIT3CS0834) collected after pressure-washing contained a total PCB concentration (19 mg/kg) greater than 10 mg/kg.

## Cleanup Plan

The only pit requiring additional actions is Pit 3. Remaining total PCB concentrations in concrete chip samples collected from Pit 3 at PCB Site Building 386 AL#01 ranged from 0.06 to 30 mg/kg. During sampling activities at Pit 3 in 2009, the concrete was determined to have a minimum thickness of 12 inches. There are no visible pathways for migration of PCBs to soil or groundwater. In accordance with the *Final Interim Removal Action Work Plan for Indoor Polychlorinated Biphenyl Sites in the Eastern Early Transfer Parcel* (CH2M HILL 2006), NFA is appropriate if results of a site-specific risk evaluation demonstrate that potential risks associated with exposure to residual PCBs are within the risk management range for the planned future commercial/industrial land use (SWA Group 2000). The proposed cleanup actions at Pit 3 are as follows:

- Removal of concrete from the entire north side wall at sample locations B386PIT3CS0822 through B386PIT3CS0827
- Removal of concrete from the entire south side wall at sample locations B386PIT3CS0828 through B386PIT3CS0833.
- Removal of concrete from an approximately 5- by 5-foot area around sample location B386PIT3CS0834 (19 mg/kg)

These cleanup actions target total PCB concentrations exceeding 10 mg/kg. Verification samples will be collected from the three concrete removal areas in Pit 3: the north sidewall, south sidewall, and west floor (Figure 3). Six discrete verification concrete chip samples will be collected from the north and south sidewalls, and four discrete verification concrete chip samples will be collected from the 5- by 5-foot removal area. Concrete removal will continue until total PCB concentrations in verification samples are equal to or less than 10 mg/kg and the average PCB concentration based on the 95 percent upper confidence limit is equal to or less than 5 mg/kg (USEPA et al. 2001). A site-specific risk evaluation will be performed using remaining PCB concentrations in Pit 3 at PCB Site Building 386 AL#01 to demonstrate that potential risks associated with exposure to residual PCBs in concrete at PCB Site Building 386 AL#01 Pit 3 are within the risk-management range generally used to determine whether additional cleanup is necessary ( $1 \times 10^{-4}$  to  $1 \times 10^{-6}$ ) and the hazard index is less than 1.

The cleanup action will be performed in accordance with the *Final Interim Removal Action Work Plan for Indoor Polychlorinated Biphenyl Sites in the Eastern Early Transfer Parcel* (CH2M HILL 2006). Samples will be analyzed in accordance with the *Quality Assurance Project Plan* (CH2M HILL 2001), using USEPA Method SW8082. Health and safety will be maintained in accordance with the *Health and Safety Plan for PCB Site Sampling and Remediation* (Appendix A to the *Final Polychlorinated Biphenyl Work Plan*; CH2M HILL 2003). Standard operating procedures (SOPs) for the fieldwork and issues regarding permits,



notifications, and site security, access, restoration, and demobilization were addressed in the *Final Polychlorinated Biphenyl Work Plan* (CH2M HILL 2003).

PCB-containing wastes generated from cleanup activities will likely be disposed offsite in a Class I landfill. However, final disposition of the waste will be determined using the results of waste characterization samples. PCB waste will be managed in accordance with CH2M HILL's Health, Safety, and the Environment SOP 82 (HSE-82), which was provided in the *Final Polychlorinated Biphenyl Work Plan* (CH2M HILL 2003).

### **Polychlorinated Biphenyl Site Closure Process**

Under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Toxic Substances Control Act (TSCA), NFA is appropriate at a PCB site if no potential source and no PCB contamination are present (CH2M HILL 2006). Even if a potential source or PCB contamination is present in machinery or building materials, NFA is appropriate under CERCLA if there has been no release of PCBs to soil or groundwater and no visible pathway exists for migration of PCBs to soil or groundwater (CH2M HILL 2006); such sites will be evaluated under TSCA for site closure, in accordance with the Consent Agreement and Final Order between USEPA and the Navy, with the City of Vallejo and LMI as intervenors (USEPA et al. 2001). If there has been a known release to soil or groundwater, NFA is also appropriate if the detected PCB concentrations in soil and groundwater do not exceed the applicable screening level, or if results of a site-specific risk evaluation demonstrate that potential risks associated with exposure to residual PCBs are within the risk-management range generally used to determine whether cleanup is necessary.

### **Conclusions**

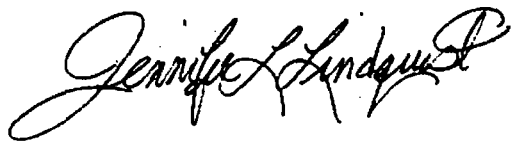
At PCB Site Building 386 AL#01, the maximum remaining total PCB concentration is 30 mg/kg. During sampling activities at Pit 3 in 2009, the concrete was determined to have a minimum thickness of 12 inches. There are no visible pathways for migration of PCBs to soil or groundwater. Therefore, in accordance with the approved *Final Interim Removal Action Work Plan for Indoor Polychlorinated Biphenyl Sites in the Eastern Early Transfer Parcel* (CH2M HILL 2006), the proposed cleanup action for PCB Site Building 386 AL#01 is removal of concrete from the north and south sidewalls and a localized area of the Pit 3 floor around sample locations B386PIT3CS08022 through B386PIT3CS0834. After the cleanup action, concrete chip samples will be collected from each of the three removal areas to verify that maximum residual PCB concentrations are less than 10 mg/kg and the average residual PCB concentration, based on the 95 percent upper confidence limit, is less than 5 mg/kg. A site-specific risk evaluation will be performed to demonstrate residual PCB concentrations are within the risk-management range generally used to determine whether additional cleanup is necessary ( $1 \times 10^{-4}$  to  $1 \times 10^{-6}$ ) and the hazard index is less than 1.

Mr. Henry Chui  
October 6, 2009  
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Please submit your approval of this cleanup plan for PCB Site Building 386 AL#01 to Stephen Farley at the above address or via email at [Stephen.Farley@CH2M.com](mailto:Stephen.Farley@CH2M.com) within 30 calendar days of receiving this letter. If you have questions regarding the PCB site addressed in this letter, please contact Jennifer Lindquist at 530/229-3224 or Stephen Farley at 707/562-1015, extension 103.

Sincerely,

CH2M HILL



Jennifer Lindquist  
Project Manager



Stephen M. Farley, P.G.  
Senior Technical Consultant

RDD/092320008 (NLH4139.doc)

Enclosures: Table 1 and Figures 1 through 3

## References

CH2M HILL. 2001. *Quality Assurance Project Plan*. November.

\_\_\_\_\_. 2003. *Final Polychlorinated Biphenyl Work Plan*. March 7.

\_\_\_\_\_. 2006. *Final Interim Removal Action Work Plan for Indoor Polychlorinated Biphenyl Sites in the Eastern Early Transfer Parcel*. August 30.

\_\_\_\_\_. 2008a. *Site Characterization and Cleanup Action Summary Report for Polychlorinated Biphenyl Site Building 386 AL#01, Investigation Area C2, Lennar Mare Island, Vallejo, California*. January.

\_\_\_\_\_. 2008b. Email from Michael Sanchez/CH2M HILL to Henry Chui/DTSC regarding "Building 386 pit sampling." July 16.

\_\_\_\_\_. 2009. *Final Feasibility Study/Remedial Action Work Plan for IR21 and the Buildings 386, 388, and 390 Area, Investigation Area C2, Lennar Mare Island, Vallejo, California*. September 30.

Department of Toxic Substances Control (DTSC). 2008. Letter. "Lennar Mare Island, Site Characterization and Cleanup Summary Report for PCB Site at Building 386 AL#01 in Investigation Area C2, Dated January 15, 2008." April 15.

Lennar Mare Island, LLC (LMI), the City of Vallejo, and the State of California  
Environmental Protection Agency, Department of Toxic Substances Control (DTSC).

2001. *Consent Agreement Between Lennar Mare Island, the City of Vallejo, and the State of California, California Environmental Protection Agency, Department of Toxic Substances Control*. April 16.

SWA Group. 2000. *Preliminary Land Use Plan*. May 23.

Tetra Tech Environmental Management, Inc. (TtEMI). 1999. *Final Basewide Polychlorinated Biphenyl Confirmation Sampling Summary Report*. Revised. January.

United States Environmental Protection Agency (USEPA), United States Department of the Navy (Navy), the City of Vallejo, and Lennar Mare Island, LLC (LMI). 2001. *Complaint/Consent Agreement and Final Order Between Lennar Mare Island, the City of Vallejo, the U.S. Department of the Navy, and the U.S. Environmental Protection Agency Region IX*. EPA Docket No. TSCA-9-2002-0002. December 20.

United States Environmental Protection Agency (USEPA). 2009. *Regional Screening Levels for Chemical Contaminants at Superfund Sites*.  
<http://epaprgs.ornl.gov/chemicals/index.shtml>. April.

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October 6, 2009  
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TABLE 1

Sample Results for Pits in PCB Site Building 386 AL#01

PCB Sites, Lennar Mare Island, Vallejo, California

Sample Number	Sample Matrix	Sample Date	Sample Depth (feet bgs)	Total PCB Concentration <sup>a</sup> (mg/kg)	Comments <sup>b</sup>
B386AL01CS0801	Concrete	07/30/2008	8.0	0.39J	Pit 1, collected from center floor  Proxy value for Aroclor-1016 0.003 mg/kg  Proxy value for Aroclor-1242 0.005 mg/kg  Aroclor-1254 = 0.14J mg/kg  Proxy value for Aroclor-1260 0.24mg/kg
B386AL01CS0802	Concrete	07/30/2008	8.0	0.75J	Pit 2, collected from center floor  Proxy value for Aroclor-1016 0.003 mg/kg  Proxy value for Aroclor-1242 0.006 mg/kg  Aroclor-1254 = 0.2J mg/kg  Proxy value for Aroclor-1260 0.54 mg/kg
B386AL01CS0803	Concrete	07/30/2008	8.0	7.5J	Pit 3, collected from center floor  Aroclor-1016 = 1.6 mg/kg  Proxy value for Aroclor-1242 0.04 mg/kg  Aroclor-1254 = 5.5 mg/kg  Aroclor-1260 0.34J mg/kg
B386AL01CS0806	Concrete	07/30/2008	8.0	0.57	Pit 10, collected from center floor  Aroclor-1016 = 0.097 mg/kg  Proxy value for Aroclor-1242 0.012 mg/kg  Aroclor-1254 = 0.31 mg/kg  Aroclor-1260 = 0.156 mg/kg
B386AL01CS0807	Concrete	07/29/2008	4.0	<0.0042	Pit 9, collected from center floor

**TABLE 1**

Sample Results for Pits in PCB Site Building 386 AL#01

PCB Sites, Lennar Mare Island, Vallejo, California

Sample Number	Sample Matrix	Sample Date	Sample Depth (feet bgs)	Total PCB Concentration <sup>a</sup> (mg/kg)	Comments <sup>b</sup>
B386AL01CS0808	Concrete	07/29/2008	4.0	0.021J	Pit 8, collected from center floor  Proxy value for Aroclor-1016 0.0011 mg/kg  Proxy value for Aroclor-1242 0.0021 mg/kg  Proxy value for Aroclor-1254 0.00034 mg/kg  Aroclor-1260 = 0.017J mg/kg
B386AL01CS0804	Water	08/22/2008	NA	<1 µg/L	
B386AL01CS0805	Concrete	08/26/2008	0.0	0.028	Pit 5, collected next to pit on east side  Proxy value for Aroclor-1016 0.001 mg/kg  Proxy value for Aroclor-1242 0.0005 mg/kg  Aroclor-1254 = 0.025 mg/kg  Proxy value for Aroclor-1260 0.001 mg/kg
B386AL01CS0809	Concrete	09/11/2008	2.0	6.5J	Pit 3, collected from north floor  Aroclor-1016 = 2.4 mg/kg  Proxy value for Aroclor-1242 0.021 mg/kg  Aroclor-1254 = 3.8 mg/kg  Aroclor-1260 = 0.31J mg/kg
B386AL01CS0810	Concrete	09/11/2008	2.0	5.4J	Pit 3, collected from north floor  Proxy value for Aroclor-1016 0.02 mg/kg  Proxy value for Aroclor-1242 0.04 mg/kg  Aroclor-1254 = 5.0 mg/kg  Aroclor-1260 = 0.31J mg/kg

**TABLE 1**

Sample Results for Pits in PCB Site Building 386 AL#01

*PCB Sites, Lennar Mare Island, Vallejo, California*

Sample Number	Sample Matrix	Sample Date	Sample Depth (feet bgs)	Total PCB Concentration <sup>a</sup> (mg/kg)	Comments <sup>b</sup>
B386AL01CS0811	Concrete	09/11/2008	7.0	7.7 J	Pit 3, collected from center floor  Aroclor-1016 = 0.92 mg/kg  Proxy value for Aroclor-1242 0.043 mg/kg  Aroclor-1254 = 6.2 mg/kg  Aroclor-1260 = 0.54J mg/kg
B386AL01CS0812	Concrete	09/11/2008	3.0	14	Pit 3, collected from north sidewall  Aroclor-1016 = 6.4mg/kg  Proxy value for Aroclor-1242 0.04 mg/kg  Aroclor-1254 = 7.9 mg/kg  Proxy value for Aroclor-1260 0.01 mg/kg
B386AL01CS0813	Concrete	09/11/2008	7.0	0.066	Pit 3, collected from center floor  Proxy value for Aroclor-1016 0.001 mg/kg  Proxy value for Aroclor-1242 0.002 mg/kg  Aroclor-1254 = 0.06 mg/kg  Proxy value for Aroclor-1260 0.0006 mg/kg
B386AL01CS0814	Concrete	09/11/2008	3.0	15	Pit 3, collected from south sidewall  Aroclor-1016 = 3. 5 mg/kg  Proxy value for Aroclor-1242 0.06 mg/kg  Aroclor-1254 = 11.7 mg/kg  Proxy value for Aroclor-1260 0.018 mg/kg



**TABLE 1**

Sample Results for Pits in PCB Site Building 386 AL#01

PCB Sites, Lennar Mare Island, Vallejo, California

Sample Number	Sample Matrix	Sample Date	Sample Depth (feet bgs)	Total PCB Concentration <sup>a</sup> (mg/kg)	Comments <sup>b</sup>
B386AL01CS0815	Concrete	09/11/2008	7.0	1.1J	Pit 3, collected from center floor  Aroclor-1016 = 0.207 mg/kg  Proxy value for Aroclor-1242 0.01065 mg/kg  Aroclor-1254 = 0.795 mg/kg  Aroclor-1260 = 0.54J mg/kg
B386AL01CS0816	Concrete	09/11/2008	7.0	3.8J	Pit 3, collected from center floor  Aroclor-1016 = 0.68 mg/kg  Proxy value for Aroclor-1242 0.02 mg/kg  Aroclor-1254 = 2.9 mg/kg  Aroclor-1260 = 0.2J mg/kg
B386AL01CS0817	Concrete	09/11/2008	2.0	0.54J	Pit 3, collected from south floor  Aroclor-1016 = 0.261 mg/kg  Proxy value for Aroclor-1242 0.00415 mg/kg  Aroclor-1254 = 2.61 mg/kg  Aroclor-1260 = 0.0174J mg/kg
B386AL01CS0818	Concrete	09/11/2008	2.0	4.4J	Pit 3, collected from south floor  Proxy value for Aroclor-1016 0.02 mg/kg  Proxy value for Aroclor-1242 0.04 mg/kg  Aroclor-1254 = 4.05 mg/kg  Aroclor-1260 = 0.3J mg/kg

TABLE 1

Sample Results for Pits in PCB Site Building 386 AL#01

PCB Sites, Lennar Mare Island, Vallejo, California

Sample Number	Sample Matrix	Sample Date	Sample Depth (feet bgs)	Total PCB Concentration <sup>a</sup> (mg/kg)	Comments <sup>b</sup>
B386AL01CS0819	Concrete	09/30/2008	7.0	1.2	Pit 3, collected from west floor  Aroclor-1016 = 0.46 mg/kg  Proxy value for Aroclor-1242 0.01 mg/kg  Aroclor-1254 = 0.77 mg/kg  Proxy value for Aroclor-1260 0.003 mg/kg
B386AL01CS0820	Concrete	09/30/2008	7.0	0.77	Pit 3, collected from west floor  Aroclor-1016 = 0.374 mg/kg  Proxy value for Aroclor-1242 0.04 mg/kg  Aroclor-1254 = 4.05 mg/kg  Aroclor-1260 = 0.295J mg/kg
B386PIT4CS0801	Concrete	01/09/2009	10.0	<0.0044	Pit 4, collected from floor area after pressure-washing
B386PIT5CS0802	Concrete	01/13/2009	10.0	<0.005J	Pit 5, collected from floor area after pressure-washing
B386PIT7CS0803	Concrete	01/12/2009	10.0	<0.005	Pit 7, collected from floor area after pressure-washing
B386PIT3CS0821	Concrete	01/15/2009	18.5	0.059	Pit 3, collected from floor of vault after pressure-washing  Proxy value for Aroclor-1016 0.001 mg/kg  Aroclor-1242 = 0.036 mg/kg  Aroclor-1254 = 0.02 mg/kg  Proxy value for Aroclor-1260 0.002 mg/kg

**TABLE 1**

Sample Results for Pits in PCB Site Building 386 AL#01

*PCB Sites, Lennar Mare Island, Vallejo, California*

Sample Number	Sample Matrix	Sample Date	Sample Depth (feet bgs)	Total PCB Concentration <sup>a</sup> (mg/kg)	Comments <sup>b</sup>
B386PIT3CS0822	Concrete	02/10/2009	4.0	4.1	Pit 3, collected from north sidewall after pressure-washing  Proxy value for Aroclor-1016 0.007 mg/kg  Aroclor-1242 = 2.9 mg/kg Aroclor-1254 = 1.2 mg/kg  Proxy value for Aroclor-1260 0.008 mg/kg
B386PIT3CS0823	Concrete	02/10/2009	4.0	15	Pit 3, collected from north sidewall after pressure-washing  Proxy value for Aroclor-1016 0.037 mg/kg  Aroclor-1242 = 8.2 mg/kg Aroclor-1254 = 6.9 mg/kg  Proxy value for Aroclor-1260 0.038 mg/kg
B386PIT3CS0824	Concrete	02/10/2009	4.0	23	Pit 3, collected from north sidewall after pressure-washing  Proxy value for Aroclor-1016 0.037 mg/kg  Aroclor-1242 = 14 mg/kg Aroclor-1254 = 8.9 mg/kg  Proxy value for Aroclor-1260 0.038 mg/kg
B386PIT3CS0825	Concrete	02/10/2009	7.0	3.6	Pit 3, collected from north sidewall after pressure-washing  Proxy value for Aroclor-1016 0.008 mg/kg  Aroclor-1242 = 2.4 mg/kg Aroclor-1254 = 1.2 mg/kg  Proxy value for Aroclor-1260 0.008 mg/kg

TABLE 1

Sample Results for Pits in PCB Site Building 386 AL#01

PCB Sites, Lennar Mare Island, Vallejo, California

Sample Number	Sample Matrix	Sample Date	Sample Depth (feet bgs)	Total PCB Concentration <sup>a</sup> (mg/kg)	Comments <sup>b</sup>
B386PIT3CS0826	Concrete	02/10/2009	7.0	9.9	Pit 3, collected from north sidewall after pressure-washing  Proxy value for Aroclor-1016 0.015 mg/kg  Aroclor-1242 = 5.2 mg/kg  Aroclor-1254 = 4.7 mg/kg  Proxy value for Aroclor-1260 0.015 mg/kg
B386PIT3CS0827	Concrete	02/10/2009	4.0	30	Pit 3, collected from north sidewall after pressure-washing  Proxy value for Aroclor-1016 0.08 mg/kg  Aroclor-1242 = 19 mg/kg  Aroclor-1254 = 11 mg/kg  Proxy value for Aroclor-1260 0.08 mg/kg
B386PIT3CS0828	Concrete	02/10/2009	4.0	14	Pit 3, collected from south sidewall after pressure-washing  Proxy value for Aroclor-1016 0.04 mg/kg  Aroclor-1242 = 5 mg/kg  Aroclor-1254 = 8.6 mg/kg  Proxy value for Aroclor-1260 0.04 mg/kg
B386PIT3CS0829	Concrete	02/10/2009	4.0	17	Pit 3, collected from south sidewall after pressure-washing  Proxy value for Aroclor-1016 0.04 mg/kg  Aroclor-1242 = 3.4 mg/kg  Aroclor-1254 = 14 mg/kg  Proxy value for Aroclor-1260 0.04 mg/kg

TABLE 1

Sample Results for Pits in PCB Site Building 386 AL#01

PCB Sites, Lennar Mare Island, Vallejo, California

Sample Number	Sample Matrix	Sample Date	Sample Depth (feet bgs)	Total PCB Concentration <sup>a</sup> (mg/kg)	Comments <sup>b</sup>
B386PIT3CS0830	Concrete	02/10/2009	4.0	23	Pit 3, collected from south sidewall after pressure-washing  Proxy value for Aroclor-1016 0.04 mg/kg  Aroclor-1242 = 3.6 mg/kg  Aroclor-1254 = 19 mg/kg  Proxy value for Aroclor-1260 0.04 mg/kg
B386PIT3CS0831	Concrete	02/10/2009	7.0	10	Pit 3, collected from south sidewall after pressure-washing  Proxy value for Aroclor-1016 0.015 mg/kg  Aroclor-1242 = 5.1 mg/kg  Aroclor-1254 = 5.1 mg/kg  Proxy value for Aroclor-1260 0.015 mg/kg
B386PIT3CS0832	Concrete	02/10/2009	7.0	11	Pit 3, collected from south sidewall after pressure-washing  Proxy value for Aroclor-1016 0.02 mg/kg  Aroclor-1242 = 3.2 mg/kg  Aroclor-1254 = 8.2 mg/kg  Proxy value for Aroclor-1260 0.02 mg/kg
B386PIT3CS0833	Concrete	02/10/2009	7.0	14	Pit 3, collected from south sidewall after pressure-washing  Proxy value for Aroclor-1016 0.02 mg/kg  Aroclor-1242 = 3.1 mg/kg  Aroclor-1254 = 11 mg/kg  Proxy value for Aroclor-1260 0.02 mg/kg

**TABLE 1**

Sample Results for Pits in PCB Site Building 386 AL#01

PCB Sites, Lennar Mare Island, Vallejo, California

Sample Number	Sample Matrix	Sample Date	Sample Depth (feet bgs)	Total PCB Concentration <sup>a</sup> (mg/kg)	Comments <sup>b</sup>
B386PIT3CS0834	Concrete	02/10/2009	12.0	19	Pit 3, collected from west floor area after pressure-washing  Proxy value for Aroclor-1016 0.03 mg/kg  Aroclor-1242 = 14 mg/kg Aroclor-1254 = 4.9 mg/kg  Proxy value for Aroclor-1260 0.03 mg/kg
B386PIT3CS0835	Concrete	02/10/2009	12.0	1.5	Pit 3, collected from west floor area after pressure-washing  Proxy value for Aroclor-1016 0.03 mg/kg  Aroclor-1242 = 0.9 mg/kg Aroclor-1254 = 0.5 mg/kg  Proxy value for Aroclor-1260 0.03 mg/kg
B386PIT3CS0836	Concrete	02/10/2009	12.0	1.4	Pit 3, collected from west floor area after pressure-washing  Proxy value for Aroclor-1016 0.003 mg/kg  Aroclor-1242 = 0.75 mg/kg Aroclor-1254 = 0.62 mg/kg  Proxy value for Aroclor-1260 0.003 mg/kg

<sup>a</sup>Total PCBs are calculated by summing all of the detected Aroclors or by using a proxy value of one-half the laboratory detection level for historically detected Aroclors and adding this to detected Aroclors.

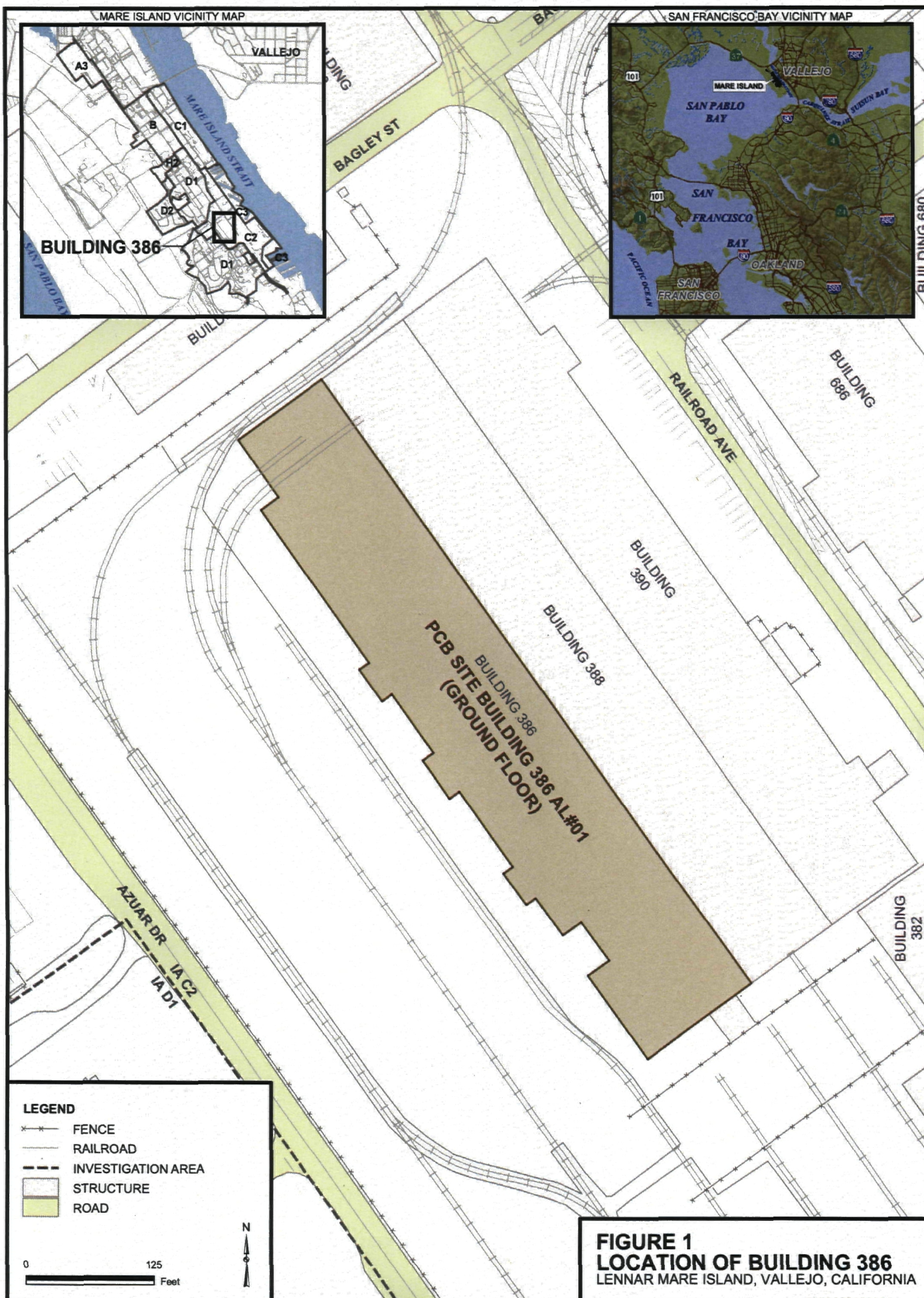
<sup>b</sup>Three significant figures were used for certain proxy values to eliminate rounding errors when calculating total PCB concentrations.

Notes:

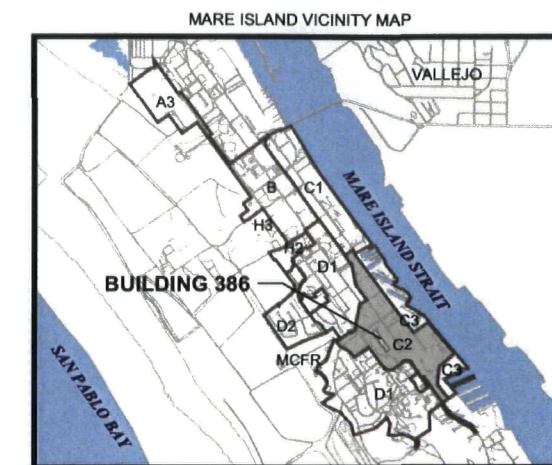
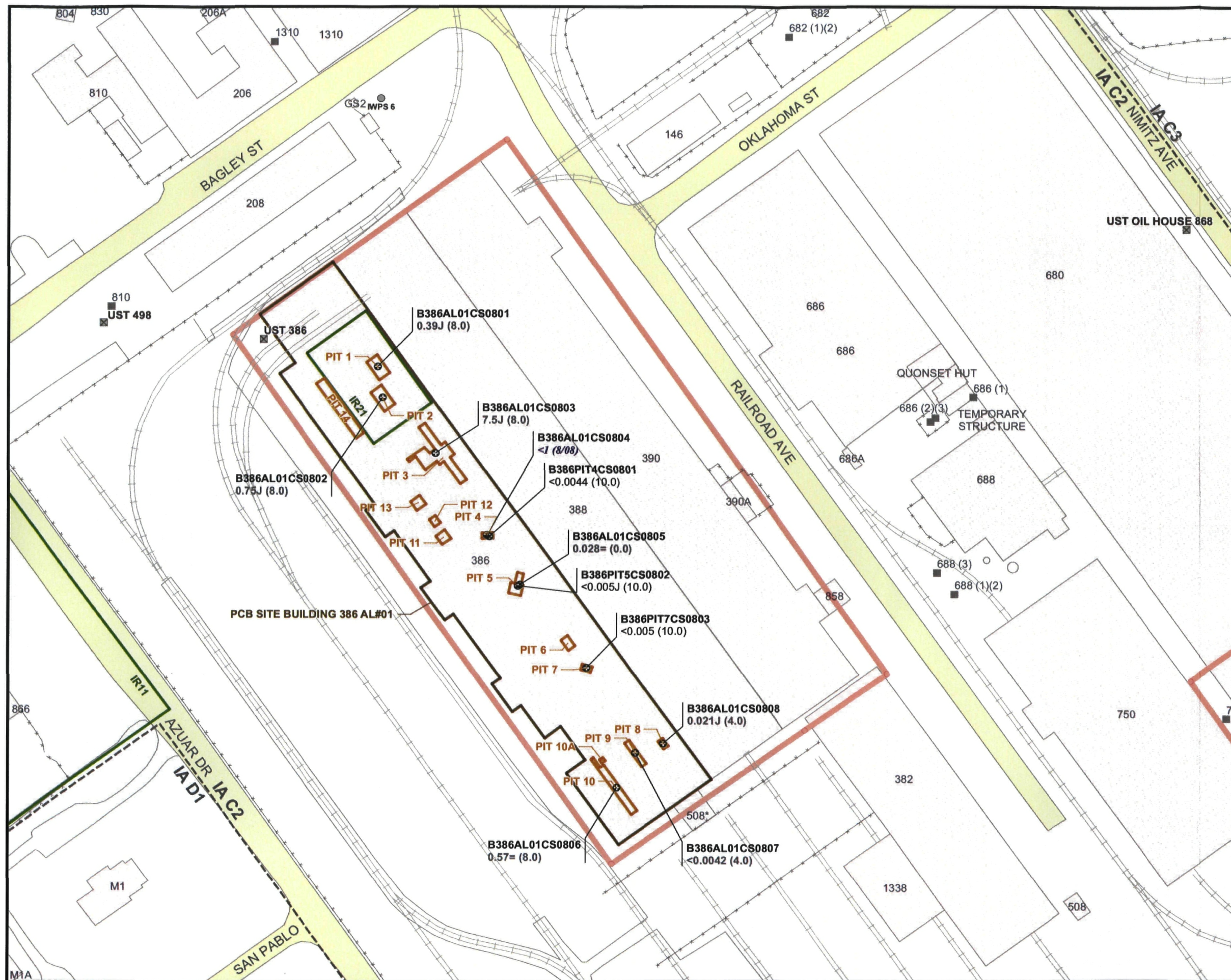
Samples were collected by CH2M HILL.

bgs = below ground surface  
J = estimated concentration  
mg/kg = milligrams per kilogram  
NA = not applicable  
PCB = polychlorinated biphenyl





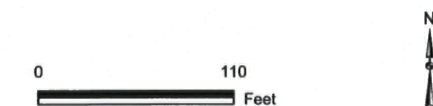




- LEGEND**
- CONCRETE CHIP SAMPLE
  - GRAB WATER SAMPLE
  - PUMP STATION
  - UNDERGROUND STORAGE TANK
  - UNDERGROUND STORAGE TANK UNKNOWN
  - FENCE
  - RAILROAD
  - INVESTIGATION AREA
  - PIT
  - GROUP I SITE (IR21)
  - GROUP II, III SITE (BUILDINGS 386, 388, AND 390 AREA)
  - STRUCTURE
  - ROAD

SAMPLE LOCATION ————— IR14VB219  
 PCB CONCENTRATION (mg/kg) ————— 86FJ (2.8)  
 PCB WATER CONCENTRATION (µg/L) ————— <4.8 (6/99)  
 SAMPLE COLLECTION (MONTH/YEAR) —————  
 SAMPLE BEGINNING DEPTH (FEET BGS) —————

- NOTES:**
1. "<" = NOT DETECTED AT OR ABOVE THE INDICATED CONCENTRATION
  2. "=" = ANALYTE WAS DETECTED
  3. "J" = ESTIMATED DETECTED RESULT
  4. ANALYTE = TOTAL PCBs
  5. FOR SAMPLES COLLECTED BY CH2M HILL, TOTAL PCBs ARE CALCULATED BY SUMMING ALL OF THE DETECTED AROCLORS OR BY USING A PROXY VALUE OF ONE-HALF THE DETECTION LEVEL FOR HISTORICALLY DETECTED AROCLORS AND ADDING THIS TO DETECTED AROCLORS
  6. GRAY LABEL = REMOVED SAMPLE LOCATION
  7. SAMPLES COLLECTED DURING ADDITIONAL EVALUATION OF PIT 3 ARE SHOWN ON FIGURE 3
  8. WATER WAS REMOVED FROM PIT 4 DURING CH2M HILL CLEANUP ACTIONS



**FIGURE 2**  
**PCB SITE BUILDING 386 AL#01**  
**PREVIOUS PIT SAMPLING LOCATIONS**  
**AND TOTAL PCB CONCENTRATIONS**  
 LENNAR MARE ISLAND, VALLEJO, CALIFORNIA



